

CLAIMS

1. A waveguide type optical module comprising a temperature control element supported on a pedestal inside a casing, and an optical waveguide
5 disposed in contact on the temperature control element, wherein:

the temperature control element includes a plate having a heater or heat absorber provided on a non-heating side thereof or buried therein; and

the plate is supported inside the casing so that the area of contact with the pedestal is less than 30% of the surface area of the plate.

10 2. The optical module according to claim 1, wherein the pedestal is put into contact with the edge of the plate to support the latter.

3. The optical module according to claim 1 or 2, wherein the pedestal supports the plate in contact with the end face of the latter.

4. The optical module according to any of claims 1 to 3, wherein the
15 plate is made of ceramics.

5. A temperature controller for use in a waveguide type optical module, the temperature controller comprising a temperature control element held inside a casing and which includes a plate having a heater or heat absorber provided on a non-heating side thereof or buried therein; and

20 there is installed to the plate a pedestal for supporting the plate thereon so that the area of contact with the pedestal and the non-heating side of the plate is less than 30% of the surface area of the plate.

6. The temperature controller for use in a waveguide type optical module according to claim 5, wherein the pedestal is put into contact with the edge of
25 the plate to support the latter.

7. The temperature controller for use in a waveguide type optical module according to claim 5 or 6, wherein the pedestal supports the plate in contact with the end face of the latter.

8. The temperature controller for use in a waveguide type optical module according to any of claims 5 to 7, wherein the plate is made of ceramics.

9. A waveguide type optical module comprising a temperature control element supported on a pedestal inside a casing, and an optical waveguide disposed in contact on the temperature control element, wherein:

the temperature control element includes a generally rectangular plate having a heater or heat absorber provided on a non-heating side thereof or buried therein; and

the pedestal supports the plate thereon in contact with each outer corner of the latter and so that the area of contact between the pedestal and plate is less than 30% of the surface area of the plate.

10. The optical module according to claim 9, wherein in the portion of each pedestal being in contact with the plate, when it is assumed that one side of the plate is α_1 while the length of the contacting portion of the pedestal along the one side of the plate is α_2 , α_2 should preferably be 5 to 40 % of α_1 .

11. The optical module according to claim 9, wherein the total area of the pedestal preferably be within a range of 1 to 25 % of the surface area of the plate.

12. The optical module according to claim 9, wherein the area of each pedestal preferably be within a range of 0.4 to 7 % of the surface area of the plate.

13. The optical module according to claim 9, wherein the pedestal

supports the plate in contact with the end face of the latter.

14. The optical module according to claim 9, wherein the plate is made of ceramics.

5 15. A temperature control element including a plate having a heater or heat absorber provided on a non-heating side thereof or buried therein, wherein the plate is shaped so that the area of contact with a pedestal which support the plate thereon is less than 30% of the surface area of the plate.

16. The temperature control element according to claim 15, wherein the pedestal is put into contact with the edge of the plate to support the latter.

10 17. The temperature control element according to claim 15 or 16, wherein the pedestal supports the plate in contact with the end face of the latter.

18. The temperature control element according to any of claims 15 to 17, wherein the plate is made of ceramics.

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